

IN THE CLAIMS:

Kindly replace the claims of record with the following full set of claims:

1. (Currently amended) For use in a channel decoder, a hybrid frequency-time domain equalizer for improved static and multi-path performance over a decision feedback equalizer comprising:

a frequency domain equalizer having forward and feedback paths; and

a decision feedback equalizer decision network within said feedback path of said frequency domain equalizer comprising a time domain feedback filter, said frequency domain equalizer and said decision feedback equalizer decision network both employing a single error vector to update error correction therein.

2. (Original) The hybrid frequency-time domain equalizer as set forth in Claim 1 wherein said decision feedback equalizer decision network further comprises a decision device within said feedback path for said frequency domain equalizer.

3. (Original) The hybrid frequency-time domain equalizer as set forth in Claim 2 wherein said decision device employs trellis decisions to minimize decoding error.

4. (Cancelled)

5.(Original) The hybrid frequency-time domain equalizer as set forth in Claim 1 wherein taps updates for said decision feedback equalizer decision network are separate from tap updates for said frequency domain equalizer.

6. (Currently amended) A receiver comprising:

an input receiving single carrier digital signals; and

a channel decoder employing a hybrid frequency-time domain equalizer for improved static and multi-path performance over a decision feedback equalizer, said hybrid frequency-time domain equalizer comprising:

a frequency domain equalizer having forward and feedback paths;

and

a decision feedback equalizer decision network within said feedback path of said frequency domain equalizer comprising a time domain feedback filter, said frequency domain equalizer and said decision feedback equalizer decision network both employing a single error vector to update error correction therein.

7. (Original) The receiver as set forth in Claim 6 wherein said decision feedback equalizer decision network further comprises a decision device within said feedback path for said frequency domain equalizer.

8. (Original) The receiver as set forth in Claim 7 wherein said decision device employs trellis decisions to minimize decoding error.

9. (Cancelled)

10. (Original) The receiver as set forth in Claim 6 wherein taps updates for said decision feedback equalizer decision network are separate from tap updates for said frequency domain equalizer.

11. (Currently amended) For use in a channel decoder, a method of hybrid frequency-time domain equalization for improved static and multi-path performance over a decision feedback equalizer comprising:

receiving a single carrier input signal at a frequency domain equalizer having forward and feedback paths; and

employing a decision feedback equalizer decision network within the feedback path of the frequency domain equalizer comprising a time domain feedback filter, the frequency domain equalizer and the decision feedback equalizer decision network both employing a single error vector to update error correction therein.

12. (Original) The method as set forth in Claim 11 wherein the step of employing a decision feedback equalizer decision network within the feedback path of the frequency domain equalizer further comprises:

employing a decision device within the feedback path for the frequency domain equalizer.

13. (Original) The method as set forth in Claim 12 wherein the step of employing a decision device within the feedback path for the frequency domain equalizer further comprises:

employing trellis decisions within the feedback path for the frequency domain equalizer to minimize decoding error.

14. (Cancelled)

15. (Original) The method as set forth in Claim 11 further comprising:

updating taps for the decision feedback equalizer decision network separately from tap updates for the frequency domain equalizer.

16.(Currently amended) For use in a channel decoder, a hybrid frequency-time domain equalizer for improved static and multi-path performance over a decision feedback equalizer comprising:

a decision feedback equalizer having forward and feedback paths; and
a frequency domain equalizer within said forward path of said decision feedback equalizer comprising a time domain feedback filter, said frequency domain equalizer and said decision feedback equalizer decision network both employing a single error vector to update error correction therein.

17. (Original) The hybrid frequency-time domain equalizer as set forth in Claim 16 wherein said decision feedback equalizer further comprises a decision device within said feedback path, said feedback path forming a portion of a feedback path for said frequency domain equalizer.

18. (Original) The hybrid frequency-time domain equalizer as set forth in Claim 17 wherein said decision device employs trellis decisions to minimize decoding error.

19. (Cancelled)

20. (Original) The hybrid frequency-time domain equalizer as set forth in Claim 16 wherein taps updates for said decision feedback equalizer are separate from tap updates for said frequency domain equalizer.

21. (New) For use in a channel decoder, a hybrid frequency-time domain equalizer for improved static and multi-path performance over a decision feedback equalizer comprising:

 a frequency domain equalizer having forward and feedback paths; and
 a decision feedback equalizer decision network within said feedback path of said frequency domain equalizer, said frequency domain equalizer and said decision feedback equalizer decision network both employing a single error vector to update error correction therein and taps updates for said decision feedback equalizer are separate from tap updates for said frequency domain equalizer.

22. (New) A receiver comprising:

an input receiving single carrier digital signals; and

a channel decoder employing a hybrid frequency-time domain equalizer for improved static and multi-path performance over a decision feedback equalizer, said hybrid frequency-time domain equalizer comprising:

a frequency domain equalizer having forward and feedback paths;

and

a decision feedback equalizer decision network within said feedback path of said frequency domain equalizer, said frequency domain equalizer and said decision feedback equalizer decision network both employing a single error vector to update error correction therein and taps updates for said decision feedback equalizer are separate from tap updates for said frequency domain equalizer.

23. (New) For use in a channel decoder, a method of hybrid frequency-time domain equalization for improved static and multi-path performance over a decision feedback equalizer comprising:

receiving a single carrier input signal at a frequency domain equalizer having forward and feedback paths; and

employing a decision feedback equalizer decision network within the feedback path of the frequency domain equalizer, the frequency domain equalizer and the decision feedback equalizer decision network both employing a single error vector to update error correction therein and taps updates for said decision feedback equalizer are

separate from tap updates for said frequency domain equalizer.

24. (New) For use in a channel decoder, a hybrid frequency-time domain equalizer for improved static and multi-path performance over a decision feedback equalizer comprising:

a decision feedback equalizer having forward and feedback paths; and
a frequency domain equalizer within said forward path of said decision feedback equalizer, said frequency domain equalizer and said decision feedback equalizer decision network both employing a single error vector to update error correction therein and taps updates for said decision feedback equalizer are separate from tap updates for said frequency domain equalizer.